

Chapter 11.2

Safety and Health Requirements for Services and Construction Contracts and Grants

1. Applicability of this chapter

You are required to follow this chapter if you identify, develop, manage, or monitor services or construction contracts or grants.

2. What this chapter covers

This chapter provides you:

- a. Safety requirements and references to be included in services and construction contracts and grants.
- b. Instructions for identifying and implementing safety requirements throughout the life of a contract.
- c. Approved wording and clauses to use in service contracts.
- d. Data requirements lists (DRLs) and DRDs for services contracts.

Determining the safety requirements for services contracts

3. Analyzing a proposed services contract for safety requirements

If your organization intends to contract for a service, you shall evaluate the proposed contract to see if it needs a safety program. This evaluation tells you what safety requirements you need to include in the contract and help you determine what funding the safety program will need. Evaluate the contract by answering the following questions as a minimum:

- a. Will the contractor do any hazardous operations? List hazardous operations, the potential severity of any mishaps (such as death, severe injury), and how often the mishap could occur. Include line items in the SOW or work breakdown structure where each operation applies. Hazardous operations of special interest include those that:
 - Your organization hasn't done before.
 - Will be done in new or modified JSC facilities or programs.
 - Involve new and potentially hazardous technologies.
- b. Will the contractor be required to maintain facilities baseline documentation? See Chapter 10.4, "Facility Baseline Documentation Requirements for Critical, Complex, or

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Hazardous Facilities,” of this handbook for details. If so, list the facilities involved and the tasks the contractor must do.

- c. Will the contractor be using hazardous materials on site at JSC or deliver them to JSC as part of a product or service? If so, identify the line items in the SOW or work breakdown structure that will use hazardous materials. Also note any unusual hazards with or large amounts of hazardous materials the contractor may use.
- d. Will the contractor do any hazardous testing? If so, list the hazardous tests. Note any that will involve human subjects and hazardous hardware.
- e. Will the contractor service, operate, maintain, or test flight hardware? If so, list the flight hardware by item or by group. Note whether each item is off-the-shelf or unique, and the program it supports. Determine whether any new safety analyses will be done or any existing analysis reviewed and updated for flight hardware.
- f. Have you identified any other hazards or safety issues with the contract? If so, describe them in detail and state the risk to JSC.
- g. Will any of the hazardous hardware or operations, identified in subparagraphs a through f above require system safety engineering tasks to identify and control their hazards? If so, send a list of those items to the Safety and Test Operations Division for review.

4. What to do with your analysis

After you and the contracting officer agree on the analysis and results, you shall:

- a. Make the results of your analysis available to the Safety and Test Operations Division. One way to do this is to attach the analysis to JSC Form 352, “Procurement Coordination/Approval Document,” when beginning coordination. You are encouraged to pre-coordinate your analyses with the Safety and Test Operations Division for new or complex procurements. Include at least a copy of the evaluation results, the proposed SOW, and the work breakdown structure or its equivalent (if available). You shall send it to the Safety and Test Operations Division for review and concurrence if the contract:
 - 1. Value is \$1M or more.
 - 2. Will include testing of human subjects.
 - 3. Will involve operating or maintaining facilities that fall under Chapter 10.4 of this handbook.
 - 4. Work will present an unusual degree of hazard.
 - 5. Will include flight equipment or critical ground support equipment used to support flight operations, including payloads.
 - 6. Will involve using hazardous materials, using potentially hazardous items, or generating hazardous waste.
 - 7. Will pose a great challenge to JSC’s emergency preparedness and response capability.

- 8. Will be performed on site at a NASA establishment in whole or in part other than for occasional visits to attend meetings or to make presentations to NASA management.
- b. Contact the Safety and Test Operations Division for any necessary guidance and concurrence on hazards or liabilities with the contract for which you have no instructions or guidance.
- c. Communicate any significant results of your analysis together with any recommendations to the Senior Advisory Group (SAG) or mini-SAG during the acquisition strategy exercise.

Preparing the solicitation for services contracts

5. What to include in the solicitation

You shall include safety requirements you identified and approved during the functional requirements analysis in contract solicitations. Include requirements, clauses, and data descriptions you identified as necessary from your functional requirements analysis. You also:

- a. May require bidders to submit certain types of information to show they can safely perform the tasks in the contract. This usually results in past performance instructions to be included in the solicitation.
- b. Shall list any unique safety tasks, such as system safety engineering, that the contract will require in the solicitation. This will allow bidders to cost those tasks.

6. What to consider during source selection

It is helpful to tie safety requirements to specific items in the work breakdown structure or SOW. The Source Evaluation Board (SEB) or Source Selection Committee may use these safety requirements in preparing a proposal evaluation plan. If safety may be a factor in source selection, the SEB chairperson shall consider including a member from the Safety and Test Operations Division on the board or as an evaluator. This office will support the evaluation of proposals when bidders submit safety and health plan or a system safety program plan with the proposal. Contractor proposals may include innovative approaches to safety and health. If accepted by the government, include them in the safety and health plan. There may be some start-up training, etc., needed to fully deploy these innovations. Make sure the details are included in the appropriate plan and schedules (such as for phase-in).

7. Including safety and health in the contract negotiations

You shall resolve any safety and health weaknesses with the winning bidder before you approve the safety and health plan. The negotiating team chairperson may request the Safety and Test Operations Division and the Clinic Services Branch to support the negotiations in any way if any safety and health objectives or tasks will be negotiated prior to contract award. This office supports negotiations in one of the following ways:

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- a. Through formal membership on the negotiation team
- b. By advising the team
- c. By providing a point of contact

8. What to do after the contract is awarded

The contract, as awarded, needs to include at least all functional safety requirements previously approved by the Safety and Test Operations Division. During the life of the contract, you shall:

- a. Get prior concurrence from the Safety and Test Operations Division if you want to deviate from those requirements.
- b. Monitor the contractor's safety and health program. Document your approach to monitoring the contractor (such as in a COTR's contract surveillance plan). The plan addresses surveillance of any subcontracts. Monitoring may need to begin with contract phase-in.
- c. Include safety and health factors in any contract evaluations, to include award fee evaluations. Award fee evaluations shall follow the process established by the Office of Procurement Directorate and the Safety and Test Operations Division, which was standardized by direction from the Deputy Director of JSC. This process is procurement sensitive and is maintained by the Office of Procurement Directorate.
- d. Make sure the contractor will be ready to fully follow its safety and health plan at contract start date. This means:
 - 1. The contractor will fully follow regulatory and JSC safety and health program requirements from contract start date to contract completion.
 - 2. The contractor has training and phase-in plans and schedules that address (a) certification of operators doing hazardous tasks, (b) new hires, and (c) safety and health program innovations proposed by the contractor during source selection.
- e. Review contract changes for safety and health impacts. Changes to specific safety and health requirements won't require Safety and Test Operations Division and the Clinic Services Branch concurrence as long as they meet all regulations and NASA requirements.
- f. Do a new functional requirement analysis if you change the contract to require new services or hardware. Get concurrence from the Safety and Test Operations Division and the Clinic Services Branch as you did with the initial analysis.
- g. Request support from the Safety and Test Operations Division and the Clinic Services Branch as needed. These offices will support you in any of the above tasks as described in JPR 1700.1, "JSC Safety and Health Handbook," or as requested.

Clauses and data requirements for services contracts

9. Safety and health in the SOW

You shall include the following or similar text in the SOW for solicitations and contracts:

SAFETY AND HEALTH. The contractor will perform tasks to ensure the protection of personnel, property, equipment, and the environment in contractor products and activities generated in support of institutional and spaceflight program objectives. To ensure compliance with pertinent NASA policies and requirements and federal, state, and local regulations for safety, health, environmental protection, and fire protection, the contractor will develop and implement a safety and health program in accordance with a NASA-approved safety and health plan. The contractor will implement system safety engineering tasks for flight and institutional program activities and products in accordance with the schedule and applicable flight and institutional requirements as documented in the contractor's SSPPs that have been approved by NASA. The contractor shall develop and implement risk management techniques (including risk assessment) to be applied to hazards derived from analyses of activities and products for the purpose of eliminating or controlling hazards as specified in NASA policies and requirements for hazard reduction. The "JSC Safety and Health Handbook" provides detailed requirements and instructions regarding safety and health procedures and policies at JSC and is incorporated by reference into all JSC contracts when performance is on site at a JSC facility. It can be viewed at <http://jschandbook.jsc.nasa.gov>.

10. Clauses and data requirements include

You shall include any clauses or data requirements in your solicitation or contract from paragraphs 12 through 15 of this chapter as applicable. Follow these rules:

- a. Use the DRDs listed below that are tailored for support services contracts. Never change or replace these DRDs without approval from the Safety and Test Operations Division. For new and follow-on solicitations, the Safety and Test Operations Division maintains a Webpage located at <http://www6.jsc.nasa.gov/safety/Requirements/index.htm> where you can find the latest versions of all pertinent data requirements.
- b. Include any necessary data requirements in the DRL. You will find instructions for including safety data requirements in the DRL in "Data Requirements Descriptions for Service Acquisitions and Instructions for the Data Requirements List" and the accompanying instruction page.
- c. Send at least one copy of each data requirement to the Safety and Test Operations Division. When reviewing the solicitation, the Safety and Test Operations Division may identify additional recipients of the data.

11. Data requirements and clauses for the safety and health plan

The following requirements apply:

- a. You shall include DRD SA-1-1, "Safety and Health Plan," and JSC Form 288, "Statistical Information - Contractor Safety and Health Program," unless the contract meets the exception in paragraph 13 below.
- b. The COTR or other contract official shall approve the plan before the contractor may do any hazardous operation or by a date stated on the schedule, usually within 45 days of contract start, whichever comes first.
- c. The Safety and Test Operations Division and the Clinic Services Branch shall concur on the plan.
- d. The contractor shall maintain the plan as required or by specific direction from the contracting officer or the COTR.
- e. You shall also include a safety and health clause in the solicitation or contract if a safety and health plan is required.
- f. The Safety and Test Operations Division and the Clinic Services Branch shall approve any changes to a safety and health clause.
- g. The clause shall be one of the following:
 1. NFS 1852.223-70, "Safety and Health," as described in NFS 18-23.7001, "NASA Contract Clauses," subparagraph a, if the plan will be submitted for NASA approval 45 days after contract start date.
 2. NFS 1852.223-73 as described in NFS 1823.7001(c), if the plan will be part of the proposal and used for source selection.
 3. Alternate I to NFS 1852.223-73 as prescribed in NFS 1823.7001(d) if you will negotiate the plan before contract award.

12. Exceptions to the safety and health plan requirement

A safety and health plan may not be required if a contractor meets the criteria of NFS 1823.7001(b). The Safety and Test Operations Division and the Clinic Services Branch shall approve any exceptions to the requirement for a safety and health plan. Usually, this will be the case if:

- a. The contract value is less than \$5M.
- b. No hazardous operations or flight hardware are involved.
- c. The contract will include the Service Contract Act of 1965, which includes adequate safety and health provisions.
- d. The contract will require that work totaling less than 1000 hours in a quarter be performed on site at JSC, Ellington Field, or the Sonny Carter Training Facility.

13. Clauses to include for hazardous materials

The following requirements apply for hazardous materials:

- a. You shall include the following clauses in any solicitation or contract that involves hazardous materials or potentially hazardous items in any way.
- b. The contractor and any subcontractors shall deliver material safety data as described in the safety and health plan.
- c. If the contractor acquires hazardous materials or potentially hazardous items from or through another government agency (see FAR Part 8, “Required Sources of Supplies and Services,” and FAR Subpart 17.5, “Interagency Acquisitions Under the Economy Act”), the contractor shall make sure that the responsible agency provides the data required by FAR Subpart 23.3 and the clause at FAR 52.223-3, “Hazardous Material Identification and Material Safety Data.”
- d. You shall include the clause at FAR 52.223-3 if the work under the contract will involve hazardous materials. See Federal Standard No. 313, “Preparation and Submission of Material Safety Data Sheets,” as revised, for more information. The contractor shall submit hazardous material data on the following:
 1. All items in, or ordinarily cataloged under, the Federal Supply Classes listed in Table I of Appendix 8A of Federal Standard No. 313, as revised.
 2. Items having hazardous characteristics in the Federal Supply Classes listed in Table II of Appendix 8A of Federal Standard No. 313, as revised.
 3. Any other material designated by a government technical representative as potentially hazardous and requiring safety controls.
- e. If the contract will involve potentially hazardous items see NFS 1823.3, “Hazardous Material Identification and Material Safety Data,” for more requirements; and:
 1. You shall also identify these items and list them in the solicitation or contract.
 2. The contractor shall maintain the list of potentially hazardous items as described in its safety and health plan.

14. Data requirements for system safety

If the contract requires system safety engineering tasks, you and someone from the Safety and Test Operations Division screen the tasks for appropriate system safety requirements. Include the results in the solicitation or contract. System safety engineering tasks are usually direct costs to the contract and, thus, need to be carefully scrutinized. You shall include the following data requirements:

- a. DRD SA-1-8, “System Safety Program Plan.” NASA shall approve this plan before the contractor may do any system safety engineering tasks. The contractor may submit one or more SSPPs for different projects before starting a project or by a date specified in the schedule (usually within 45 days), whichever comes first. The contractor shall:

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1. Maintain the plan as required or by direction from the contracting officer or the COTR.
2. Reference SSPPs in the safety and health plan as described in DRD SA-1-1.

Requirements for construction contracts

15. Safety in construction solicitations and contracts

As a contracting officer, you shall make sure that solicitations for bid and construction contracts require the contractor to:

- a. Follow 29 CFR 1926, “Occupational Safety and Health Standards, Construction Industry.”
- b. Follow Chapter 10.1, “Safety and Health Requirements For Facility Design, Construction, And Operations,” of this handbook.
- c. Follow any other provisions required by law or the basic contract clauses.
- d. Submit a safety and health plan enough in advance of the scheduled start of construction to allow the Safety and Test Operations Division and the Clinic Services Branch to review the plan and submit comments. The plan needs to thoroughly address the specific hazards and OSHA standards associated with the project, to include protection from falling objects where appropriate. You shall approve the plan before any construction may begin.
- e. Submit a hazard analysis for the project that explicitly addresses specific hazards associated with the project. The contractor may submit the analysis in phases, but the Safety and Test Operations Division shall approve the hazard analysis for each phase before work on that phase may start.
- f. Submit a site-specific steel erection plan if the project will involve steel erection. The plan shall meet the guidelines in 29 CFR 1926, Subpart R, Appendix A.
- g. Ensure that contractor project safety officers and site supervisors take the 10- or 30-hour OSHA Construction Outreach Training before starting work. The contractor shall provide training records for project safety officers, site supervisors, and foremen before beginning work on the project.

16. What to do after a construction contract is awarded

You shall make sure the contractor follows its safety and health plan and any other safety and health requirements in the contract. The Safety and Test Operations Division and the Clinic Services Branch periodically inspect the job site. The Facilities Management and Operations Division has additional requirements for managing construction contracts.

Grants

17. Requirements for JSC grants

If the grant involves working in a JSC facility or with JSC equipment, the grantee shall:

- a. Submit a hazard assessment of the work to the grants officer. Follow paragraph 9.7 of NPR 8715.3 when awarding grants.
- b. If the risk is significant, the grantee shall:
 1. Submit a safety and health plan to the grants office or designee for approval.
 2. Report and investigate any mishaps as required by Chapter 2.7, “Mishap and Incident Investigation,” of this handbook.